

ZIKA

OWNER'S MANUAL



I-TIG200DC

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SAFETY INSTRUCTION AND CAUTION



Warning----- Protect other people and yourself from the potential personal injury. Children should keep away from the working place. The heart pacemaker wearer should keep away from the working place according to doctor's orders.

Before installation, debugging or repair, please read this manual carefully.

Please keep this manual safely to avoid missing.

Failing to observe safety regulations and accident preventive measures, both arc welding equipment and welding process may cause grievous personal injury even life safety or other equipment's damage and property loss.

Safety habits is formed in the past welding and cutting operation experience. These practical experience has to be acquired through hard study and training and can be used in operating the equipment.

People who have never been trained in welding and cutting practice do not attempt to perform welding.

All installation, debugging and maintenance, ie maintenance service should be carried out by professional person.

1.1 Safety in Welding



Warning----- Touch the parts bearing electricity may cause fatal shock and severe burnt. Once starting up, output terminal and working circuit always are electrified; when turn on the input power source, input circuit and interior circuit are also electrified. Welding electrode and all of metal components that contacting welding electrodes and electrode holder are electrified too. Therefore, the improper installation and wrong grounding are dangerous.

1. Do not contact electrified parts.
2. Please wear dry glove and protective clothing and safety helmet.
3. Lay out the working space carefully to ensure you, workpiece and floor are insulated reliably.
4. In installation and maintenance of equipment, make sure the machine is powered off or shutdown. Please lockup the air switch or remove the fuse to prevent power switch closing accidentally.
5. Carry out installation and grounding according to manufacturer's safety advice, national standard and local code and regulation.
6. Please cut off the power when not use the equipment. When the equipment is not watched over or is repaired or scrap, the power supply circuit should be disconnected.
7. Make sure to use electrode holder with excellent insulation, do not cool the electrode holder in water or place it on ground and work piece. At the same time, do not touch the connection point of electrode holder of the two equipments, do not

touch other people, electrode holder connection point and current-carrying electrode.

8. Do not use the cable which is used, broken, with small nominal section and unfirm terminal.
9. Do not let the welding cable enwind human body.
10. Grounding the work piece reliably.
11. When connecting ground wire, do not touch electrode.
12. In maintenance, must use perfect maintenance equipment.
13. The AC arc welding machine without voltage-reducing device (VDR) can not be used when welding is performed in narrow, small and humid space. We recommend using direct current arc welder to ensure personal safety.
14. Please fasten your safety belt when working high above the ground or on unflat ground.



Warning----- Arc light may injure your eyes and skin, the noise may do harm to your hearing. Welding process may generate high-heat and strong ultraviolet radiation which have potential to cause eye injury and skin burnt, and some working process may generate.

Heavy noise which harms your hearing.

1. In welding and cutting course, please wear qualified helmet which can filter the radiation to protect your eyes and face.
2. Please wear a pair of standard goggles(see table:1 - 1) .
3. Protect other people with folding screen or fencing not affecting by arc light and splash and warn: do not look at electric arc!
4. Please wear heat-proof and fireproof clothing and protective shoes.
5. Please wear qualified earplug or earcap in place where has great noise intensity.



Warning-----Fume may do harm to health. The smog and gas generated in welding process may do harm to your health after inhalation.

1. Keep head out of fume and never inhale it.
2. Indoors, it is required to install ventilating device or exhaust fan to expel the fume and gas.
3. Please use air filtering respirator when the ventilation is poor.
4. Read material's security manual (MSDSS) and manufacturer's specification for metal material, consumption material, bedding and clothing and cleaning methods.
5. When welding in narrow and small space, please always ensure ventilation is excellent or wear air filtering respirator. The air filtering respirator can filter the harmful gas which may cause health hazard and even personal death to ensure the air you inhaled is safe. .
6. Please do not perform welding in the location where the grease removal, washing or spray working are carried out. The welding process may generate arc light and heat which can activize extremely toxic substance and irritative gas.

7. The welding machine can not be used to weld galvanized, aluminized and cadmium plated steel plate, unless the coating metal in welding area has been removed. The welding location should be well-ventilated. If it is necessary, please wear air filtering respirator. Metal surface coating and any metal may generate toxic gas.

Cutting and welding arc light protection selection			
Welding and cutting		Electrode size	Filter glass
Oxy-acetylene welding and cutting	light	Less than 25mm	3 to4
	medium	25mm—150mm	4 to5
	dark	Over 150mm	5 to6
Gas shielded welding	light	Less than 3mm	4 to5
	medium	3mm—12mm	5 to6
	dark	Over 12mm	6 to8
Manual electrode welding		Less than 4mm	10
		4mm—6.4mm,	12
		Over 6.4mm	14



Warning----- Welding is easy to cause fire and explosion. Welding may generate spark, splash, jumping fire and hot metal splash; heated work piece and heating equipment may cause fire and skin burnt.

Accident short circuit, open circuit or contacting metal may cause overheat of wire cable or generate sparkle which may cause fire.

1. Ensure you and other not be injured by splash, spark and hot metal.
2. Do not weld in the place where the spark can reach the combustible substance.
3. Move the combustible substance 35FT(10.7m) away from electric arc. If condition is limited, please use the proper sheathing to cover them closely.
4. Please watch out to prevent the spark and hot metal in welding course reach the neighbor area through narrow gap and opening.
5. Place fire extinguisher and closely watch out .You must be aware of that: when welding on ceiling, floor, partition plate or folding screen, the fire may occur on the back of them where it is not easy to be found.
6. Do not weld on the closed tanks such as tank, groove or cylinder barrel etc.
7. Due to long-distance power transmission in welding location, the connecting cable of workpiece and welding cable may have broken insulation layer somewhere which may cause electric shock and fire.
8. Do not let welder to thaw out the frozen pipe.

9. Remove the electrode from the welding holder when not welded.

INTRODUCTION INSTRUCTION

2.1 How to Use This Manual

Please carefully read instruction for safety in operation and chapter about warning to ensure reliable installation and operation. Pay most careful attention to the content under the title of warning, caution and remark etc. These special annotations are easy to understand.



Warning

Warning means: matters that have the potential to cause personal injury.

Caution mean: matters that have potential to damage the equipment.

Remark means: matters that provide helpful operating instruction.

2.2 Confirmation of Equipment

Please check and confirm whether the model of received equipment is correct, the accessories and parts accompanying the equipment, the specification, guarantee repair card, certificate of conformity and packing list are complete, the serial number or ex-factory No. is one-to-one correspondent and correct. After confirmation, record the result in relative forms for reference.

2.3 Acceptance of Equipment

Please confirm the received equipment is complete and in good condition. In the event that something has been damaged, please notify the post personnel your just claim as well as provide the recorded detailed information about the equipment damage and transport error as the evidence in support of your rights and interests. The equipment should be stored in a proper and safe place with reasonable care after acceptance.

2.4 Description of Product

Our welding machine is equipped with advanced rectifier designed based on advanced inverter technology. The inverter arc welding equipment is based on the appearance of inverter power source theory and parts. Inverter arc-welding source converts 50/60Hz industrial frequency to high frequency (more than 100KHz) through high power parts: MOSFET field effect tube, transfer electrical energy through high-frequency transformer and magnetic coupling mode and reduce the voltage and then rectify. And output powerful direct current required by welding technology through pulse-width modulation technology (PWM). High frequency of inverter switch makes the weight and volume of main transformer considerable small. The conversion efficiency of transformer has also improved remarkably by 30%.The appearance of inverter welding machine is praised as a revolution in welding machine industry.




Our inverter argon arc welding machine has the following characteristics: easy arc ignition, concentrated electric arc, air-feed in advance, air-shut delay, automatic welding current attenuation, time continuously-adjustable device, pulse selection, adjustable pulse frequency, adjustable peak current, adjustable valley current, auto-control arc starting and arc stop, stable welding etc, which make both welding seam and internal quality reach optimal effect and suitable for the welding which has special requirements for welding seam.

Our inverter argon arc welding machine can be used to weld stainless steel, alloy steel, carbon steel, copper and other non-ferrous metal. In general, the power source conversion efficiency of welding machine may exceed 85%.

Welcome friends from all walks of life use our products and offer your valuable advice, we will commit ourselves to make our product and service more perfect.

2.5 Symbol Table

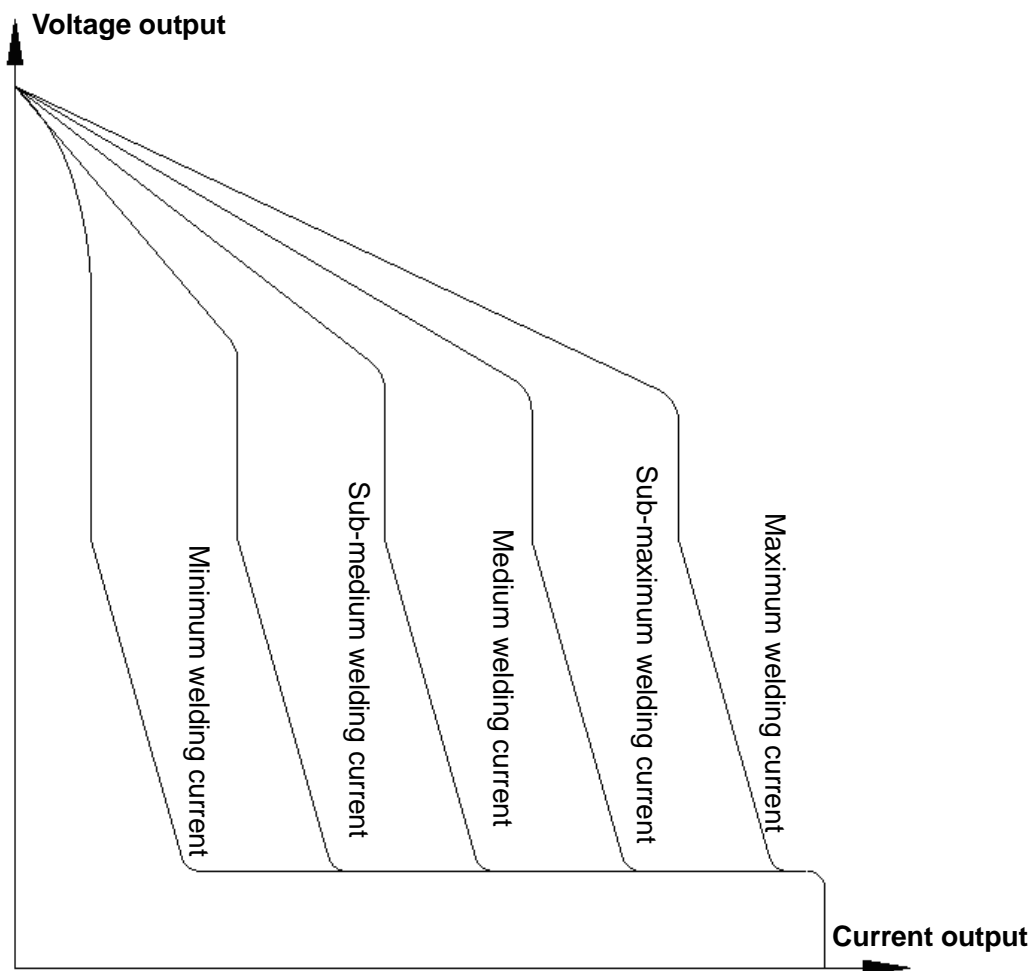
The following symbols are of universal identifier of welding, only part of them may be used in our equipment.

A	Ampere (current)
V	Volt (electric pressure)
	Hertz (frequency)
sec	Second (time)
%	Percentage
	DC(Direct Current)
~	AC (Alternating Current)
	TIG torch
	Remote control
-	Welding output (negative)
+	Welding output (positive)

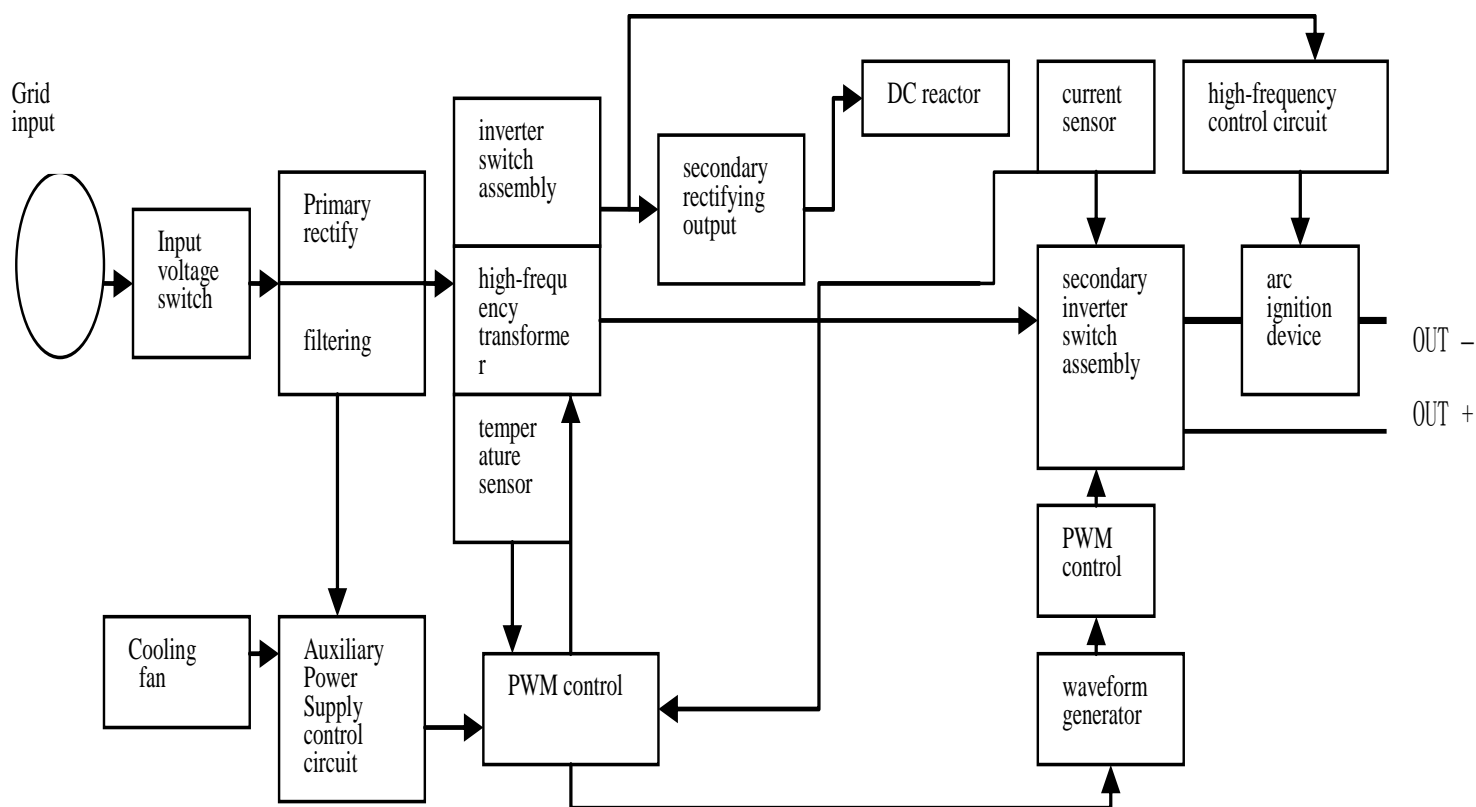
2.6 External Characteristic Description

TIG series welding power source has the gradual closing characteristic with decent output. The curve indicates the maximum output voltage and minimum welding current of welding source. You can adjust the welding current within the minimum welding current and maximum welding current through current regulation turn button.

Figure 2-1: external characteristic curve of TIG series welding power source



2.7 Operating Principle Block Diagram of Circuit



2.8 Means of Transportation



Warning----crash down may cause equipment damage or personal injury.

Refer to transporting and placing methods marked on the external packing of equipment. Handle the equipment with trolley or similar handling equipment which has adequate carrying capacity. When handle the equipment with fork truck, please fix it firmly to prevent it from slipping.

EQUIPMENT INSTALLATION



Warning -----Improper installation and connection will cause the equipment damage and personal injury.

Advice: The electric connection of equipment must be performed by qualified electrician holding qualification certificate.

3.1 Working Environment

TIG series welding machine should be used in recommended environment. Insulation work must be done in advance when the following or similar instance exists:

- a. When the operator's action is limited by environment (such as: only work on bended knees, on foot or lay), it must avoid directly contacting the current-carrying part on equipment with body.
- b. In the event the operating environmental space is very narrow and small so that the operator can not step aside the current-carrying conductor, or in humid environment, the operators easy to sweat which make them in great electric shock risks

3.2 Working Place

Ensure the welding machine is placed according to the following instructions

1. Dry and dust environment.
2. Ambient temperature: within 0°C- 40°C.
3. Without oil sludge, water vapour and corrosive gas.
4. No vibration and strike.
5. In rainproof and shade place.
6. More than 300mm to wall to ensure cooling air flow not be blocked and excellent ventilation.

3.3 Electrical Input Connection and Distribution Requirement



Warning -----Electric shock may cause death.

High voltage direct current still exists in equipment after power-off, please do not touch the current-carrying part of equipment. Shutoff welding machine power, remove fuse, and stick red warning mark on disconnecting switch.



Warning -----Do not connect the power line (red / white wire) to ground terminal.

Do not connect the ground wire (olive wire) to power line.

Welding equipment is powered by single-phase (or three-phase) 50 / 60Hz AC power source. For the input voltage and fluctuation range, please see the parameters listed on nameplate. Please select power supply voltage strictly according to nameplate.

Caution: Improper power supply voltage may damage equipment.

Remark: This equipment is furnished with electric outlet which must be correctly connected by qualified electrician according to specification.

3.4 Input Power Efficiency

Each welding source has soft startups circuit and input EMC. When main power switch is turned on, soft startups circuit will provide pre-charge for input capacitance, and when the input capacitance is full (about 5s), power source will close the input relay

Caution:

Please select the power source according to the nameplate of equipment, improper input power source may cause welding machine can not work normally. The power source with more or less voltage than that listed on nameplate may damage welding source

Remark:

Fusing current can not exceed 200% rated current of welding source.

ARC series welding power source can be powered by oil electric engine.

In general, oil electric engine with input power be twice of welding source input power. For further details, please contact local dealer who will propose the reasonable selection of oil electric engine.

3.5 Duty Cycle

Duty cycle means: the working hours percentage of equipment in 10 minutes work cycle, when welding current decreases, the duty cycle will increase, when welding current increase, it will decrease.



Warning-----Do not use the welding machine under overload for long time.

When output exceeds duty cycle grade, the temperature in equipment will rise, at this moment, the protective circuit will start to work and disconnect output, the equipment will not resume work until it cools to normal temperature.

Caution: Persistent overload work may damage welding source. The damaged caused by this does not be guaranteed.

3.6 Specification

We will improve the welding source continuously, therefore, the product may be optimized and upgraded, our Company will not inform user and dealer in advance about this improvement.

Remark:

The characteristic, electric voltage, capacity, volume and outline dimension etc are approximate value due to the manufacture condition; therefore, it is required correct installation, debugging, use, maintenance and service.

TECHNICAL PARAMETERS TABLE

4. Technical parameters table of I -TIG200DC

Parameter \ Model	I -TIG200DC
Power voltage (V)	1 phase AC220V±15%
Frequency (Hz)	50/60
Rated input current (A) MMA / TIG	43/28
Current range (A)	10-200
No-load voltage (V)	56
Rated output voltage (V) MMA/TIG	28/18
Arc force adjustment	—
Duty cycle (%)	60
No-load loss	40
Arcing way	High frequency arc ignition
Efficiency (%)	80
Power factor	0.73
Insulation grade	F
Hosing protection grade	IP21
Weight (kg)	9
Dimensions (mm)	371×153×232

The above listed in table are only universal specification. In fact, these parameters will vary according to the distribution voltage and the specific working environment of user.

INSTALLATION INSTRUCTION

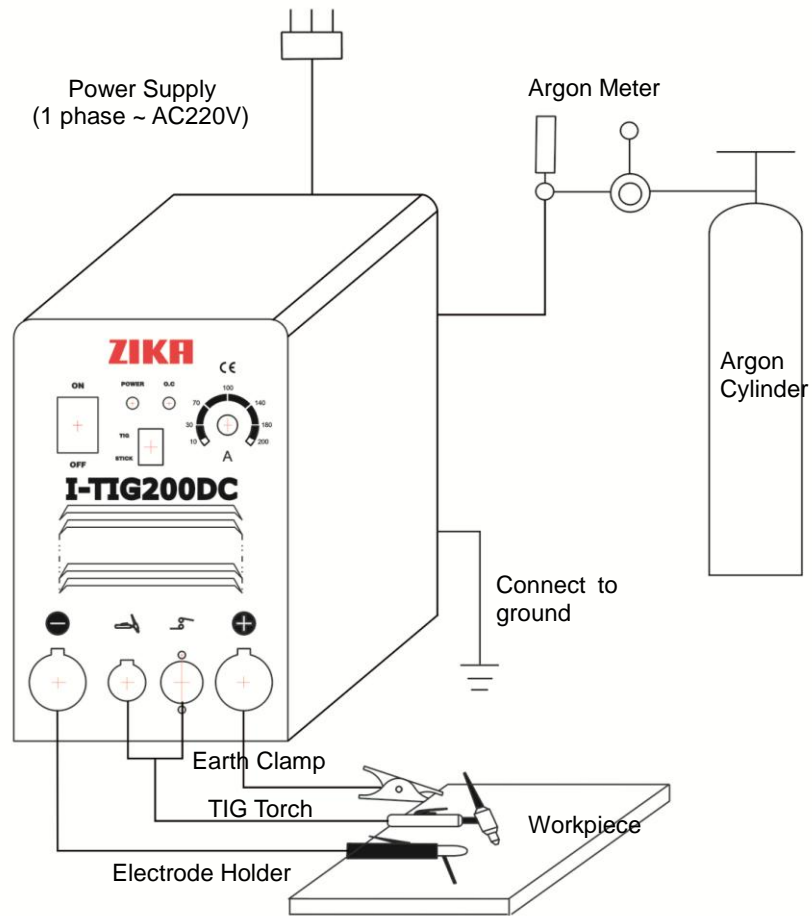
5. Installation

Our welding machine is equipped with power source voltage compensation system, so it still can work normally when the power source voltage varies within the range of $\pm 15\%$ rated voltage.

When long cable is necessary to be used, the larger section cable is advised to be used to decrease line loss of voltage; when the connecting cable is overlong, it may impose great affect on arc starting performance of welding machine and other performance of system, so we advice you use the recommended cable length.

1. Confirm that the ventilation opening of cutting power source are not covered or blocked to ensure the cooling system effective.
2. Reliably ground the housing case through wire with conducting sectional area not less than 6mm²: connect the ground terminal on the back of welding machine to grounding device, or ensure the grounding terminal of electric outlet has already independently grounded reliably. Both methods can be used simultaneously to ensure safety.
3. Connect to shielding gas source. Air-fed channel should include gas cylinder, argon gas pressure reduction flow meter and gas hose, connection joint of gas hose should be tightened with hose clamp or other objects to prevent argon gas leakage and air admission.
4. Reliably ground the housing case through wire with conducting sectional area not less than 6mm²: connect the ground terminal on the back of welding machine to grounding device.
5. Plug the quick- plug of circuit cable into the quick- socket on the panel of welding machine and screw it in clockwise, clamp the work piece with the ground wire clip on the other end.
6. When use feet switch control, connect the two-pin aviation plug and three-pin aviation plug of feet switch to the two-pin aviation socket and three-pin aviation socket on the panel of welding machine respectively.
7. Connect the power wire to distributor box of corresponding voltage grade according to input voltage grade of welding machine, and make sure not connect to voltage wrongly. Moreover ensure the voltage error is within the allowable ran
8. In manual electric arc welding mode, hand welding tongs should be installed according to the figure. When the above work has been finished, the installation work of welding machine is completed and the welding can be carried out. Connect the power wire to distributor box of corresponding voltage grade according to input voltage grade of welding machine, and make sure not connect to voltage wrongly. Moreover ensure the voltage error is within the allowable range.

I-TIG200DC installation instruction:

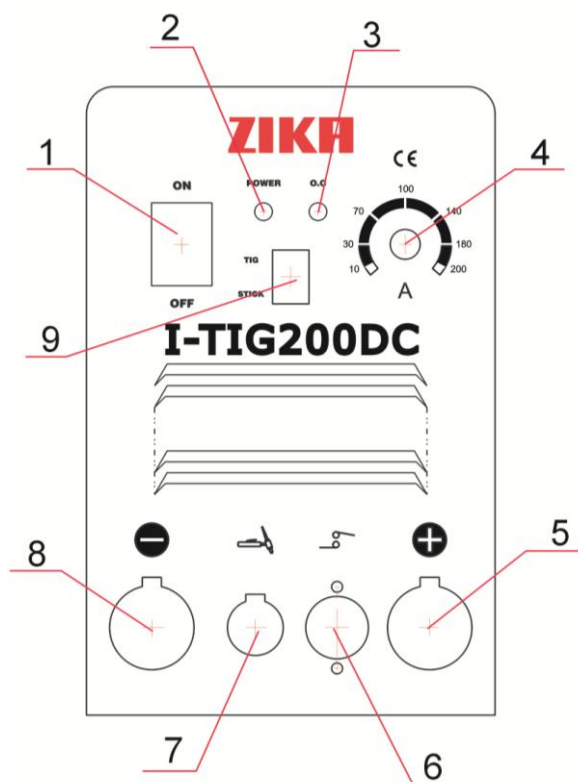


Warning -----Do not use fine wire or non-welding cable as welding grounding wire

PANEL FUNCTION INSTRUCTION

6.1 Description of Panel

I-TIG200DC panel instruction:



1	Power switch
2	Power indicator led
3	Abnormal indicator led
4	Welding current adjustment
5	Positive output terminal
6	Torch switch socket
7	Gas-electricity system output terminal
8	Negative output terminal
9	MMA / TIG change-over switch

6.2 Operation Control

Warning-----When arc-welding source is connected to power grid, the circuit in power source has already carried about 240V voltage to ground, therefore, touch alive part is quite dangerous. All connection operation should be carried out after confirming that the power source has been disconnected. The correct order is: connect weld line and ground wire to welding machine and confirm the connection is reliable and no loose, then insert the power plug into power socket.

Caution: When inserting cable plug into the power source socket, if the connection is not tight, it will cause severe heating of connection which may result in plug and socket burnt out and adhering together.

Positive terminal: welding source output positive is connected to welding cable through this port. When install, insert the cable plug into power source socket and screw it in clockwise tightly to ensure connection firm.

Negative terminal: welding source output negative is connected to welding cable through this port. When install, insert the cable plug into power source socket and screw it in clockwise tightly to ensure connection firm.

Switch: once switch is closed, arc-welding source is connected to the power grid and the inverter can get electrical power from power grid.

Function description of argon arc welding:

1. Turn on the power switch of front panel, digital current meter is normal, fan begins to run.
2. Turn on argon switch, and adjust gas pressure to rated value. (Refer to flow table).
3. Press switch of torch, electromagnetic valve is started. You will hear the sound of electricity-releasing HF sparkle and at the same time, argon gets out the torch. NOTES: If the first time welding, you should press switch for a few seconds before welding, until all the air in the gas passage is removed, and then start to weld. When you stop welding, argon will still flow out for a few seconds, which is designed to guarantee that weld spot is protected before cooling down. So when the electric arc stops, keep the welding position for a while and then move the torch.
4. Set suitable welding current according to the thickness of work piece and process demand.
5. Keep 2-4mm space between tungsten pole and work piece, press torch control switch, between electrode and work piece HF electricity is released; After arc initiation, HF sparkle disappears soon and can start to work.

Function description of manual electric arc welding:

1. Switch "TIG / MMA change-over switch "to " MMA".
2. Turn on power switch, the fan begins rotating. Hold the welding electrode with electrode holder and start welding.
3. Select proper welding current according to welding thickness of work piece, working station and welding process.

MAINTENANCE AND SERVICE

7.1 Caution and Precautions

Operating condition

- 1) Welding operation should be performed in a relatively dry environment with air humidity not more than 90% generally.
- 2) Ambient temperature should be within the range of - 10 °C to 40 °C.
- 3) Do not weld in sunlight or rain to prevent the water or rainwater seep in welding machine.
- 4) Do not carry out welding work in dust region or environment containing corrosive gas.
- 5) Do not perform gas shielded welding operation in the environment with strong air flow.

Key point of safety

Our welding machine is furnished with over-voltage, over-current and overheating protection circuit. When mains voltage, output current and internal temperature exceed the set standard, welding machine will automatically stop; but overuse (such as over-voltage) may damage welding machine, so you should pay attention to the following notes:

Ensure excellent ventilation!

Our welding machine is mini-type welding machine. There has great working current passing in working, so natural ventilation could not satisfy the cooling requirement of welding machine, therefore, a built-in fan is provided to cool the welding machine effectively to make it work steadily.

The operator should make sure the ventilation not be covered and coated or blocked up; the distance between the welding machine and objects around should not be less than 0.3m. User should always pay attention to keep excellent ventilation which is vital to preferable working and long service life of welding machine.

Overload is forbidden!

The operator should observe and check the maximal permissible load current from time to time (relative to the selected load duration factor) to ensure the welding current not exceed the maximal permissible load current.

Current overload may shorten the service life of welding machine remarkably even cause burnt of welding machine.

Over-voltage is forbidden !

The supply voltage is listed in "main performance parameter " table. In general, the electric voltage automatic compensation circuit in welding machine will ensure the welding current within the allowable range. When the supply voltage exceeds allowable value, the welding machine may be damaged. The operator should fully realize this instance and take corresponding preventive measures.

When the welding machine exceeds the standard duty cycle in work, it may enter into protection mode and pause, which indicates that welding machine has exceeded standard duty cycle and the excessive heat energy will activate the temperature detecting switch (TDS) to make welding machine stop, at the same time, the red indicator on front panel will light. Under this circumstances, power plug need not to be unplugged so that the cooling fan can work on to cool the welding machine. When the red indicator extinguishes, it indicates that the temperature has dropped to standard range and the welding can restart.

7.2 Common Problem in Welding and Settlement Measures

The phenomena listed here may be related to the your used parts, welding material, environmental factor and power supply state, please take measures to improve environment to avoid these matters occurring .

1. Arc starting is difficult and arc easy break:

- 1) Check and confirm whether the quality of tungsten electrode used is good. The discharge efficiency of poor-quality tungsten electrode can not meet the requirements
- 2) The tagging tungsten electrode can not start are and cause arc flare.
- 3) When use the lengthen cable, it will make excessive electric voltage drop at output terminal, therefore, the cable length is as shorter as better.

2. Output current not reach rated value:

When power supply voltage deviates from rated value, it may result in unconformity between output current value and setting value; when power supply voltage is lower than rated value, the maximum output current of welding machine also may be lower than rated value.

3. The current is unstable in operating process of welding machine:

This instance may be related to the following factors:

- 1) Power grid voltage has changed;
- 2) The serious interference from power grid or the other utilization equipment.

4. Tungsten pin has severe burnt :

Oversize duty ratio regulation makes the workpiece emit electron to tungsten pin for overlong time which result in tungsten pin overheating.

5. When weld aluminum, the oxidation film can not be broken:

- 1) Select wrong welding shift;
- 2) Undersize duty ratio regulation;
- 3) Some field tubes are damaged in secondary inverter. .

6. Abnormity indicator is on:

- 1) The indicator will light when abnormal occurs in welding machine. When the indicator lights, please turn off the power switch. After the indicator extinguishes, restart up the machine and continue to weld.
- 2) When the indicator lights repeatedly, please call (send for) professional or manufacturer to carry out inspection and repair.

7. Black welding spot

This indicates that welding spot is oxidized due to not be protected effectively, please carry out the following inspection:

1. Confirm whether the valve of argon gas cylinder has already been opened and the pressure is adequate. In general, when the pressure in cylinder is less than 0.5MPa, it is necessary to recharge it again.
2. Check whether the argon gas flow is opened and adequate. In order to save gas, you can select different flow according to the welding current, but undersize flow may result in insufficient shielding gas which can not cover the welding spot completely. We recommend the argon gas flow not be less than 3l /min no matter how small the current is.
3. Feel the nozzle with hand to examine whether it has gas flow out and examine whether the gas channel of welding torch is blocked.
4. When the gas channel is not sealed well or the gas is not pure, it may cause poor welding quality.
5. When the air flow in working environment is too strong, it may degrade welding quality.

7.3 Routine Maintenance

Routine maintenance means the periodical examination for cleaning according to operating condition, examination period depends on the service condition.

Warning-----Before routine maintenance, always make sure the power switch has been turned off. Wait for 5 minutes to make primary side electrolytic capacitor in machine discharge completely.

1. Periodically remove the dust with dry and clean compressed air. Dedust the welding machine everyday if it is used in environment with dense smoke and serious air pollution.
2. Compressed air' pressure should reach a reasonable level to prevent damaging the small component part of welding machine.
3. Periodically check the interior circuit connection of welding machine to confirm whether the connection is correct and the connection point is fast (especially the plug-in connection or component).In the event rust and loose are found, polish it with sandpaper to remove the rusty layer or oxidation film, then reconnect and fasten it.
4. Prevent water or water vapor entering into welding machine, or else, carry out drying process and then measure the insulation condition with megameter (include between connections and connection point and housing case).The welding work can keep on only it is confirmed that there is no abnormal situation.
5. In the event that the welding machine is not used for a long time, it should be replaced in original package and stored in a dry place.







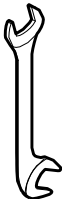


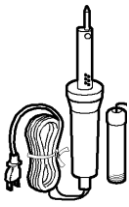
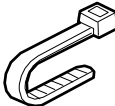

TROUBLESHOOTING



Warning----- Non-professional people do not attempt to maintenance and repair the machine

8.1 Maintenance Tool

The following is the schematic diagram of the required maintenance tool



WARNING!

Connected welding machine to dynamotor directly will damage machine. The heavy voltage pulse which is produced by dynamotor will burn out machine when machine connected to dynamotor, only can use asynchronous dynamotor whose frequency and voltage both are steady. Because of connecting welding machine to dynamotor directly lead to damage and malfunction, which is not in guarantee.

8.2 Troubleshooting

Note: the following operation requires the operator must have adequate electric professional knowledge and overall safety common sense, and the operator should hold the valid qualification certificate to support his competence and knowledge. We recommend you contact our Company first and gain approval before performing inspection and repair.

I-TIG200DC Faults and Remedy

Fault symptom	Remedy
Power indicator is not lit ,fan does not work and no welding output	<ol style="list-style-type: none">1. Power switch is out of work.2. Check if electrify wire net (which is connected to input cable) is in work.3. Check if input cable is out of circuit.
Power indicator is lit ,fan does not work Or revolve several circles ,no welding output	<ol style="list-style-type: none">1. Maybe connect wrong to 380V power cause machine is in protection circuit, connect to 220V power and operate machine again.2. 220V power is not stable,(input cable is too slender)or input cable is connected to electrify wire net cause machine is in protection circuit. Add the section of cable and tighten input connector firmly .Turn off machine 2-3 minutes then restart the machine.3. Cable is loosed from switch to power panel, tighten them again.4. Turn on and turn off power switch constantly in short time cause machine is in protection circuit Turn off machine 2-3 minutes then turn on it again.5. Main circuit 24V relay of power panel is not close or has damaged. Check 24V power source and relay. If relay has damaged replace it with same model.
Fan is working, indicator is not lit and sound of HF arc-striking can not be heard, wiping welding can not strike arc.	<ol style="list-style-type: none">1. Positive and negative electrodes of VH-07 insert component voltage should be about DC308V from power panel to MOS board.2. There is a green indicator in auxiliary power of MOS board, if it is not on, auxiliary power is out of work. Check fault spot and connect with seller.3. Check if connector is poor contact.4. Check control circuit and find out reasons or connect with seller.5. Check if control cable of torch is broken.

Abnormal indicator is not on, sound of HF arc-striking can be heard, but there is no welding output.	<ol style="list-style-type: none"> 1. Check if torch cable is broken. 2. Check if grounding cable is broken or not connected to welding piece. 3. Output terminal of positive electrode or torch electrify is loosed from inner-machine.
Abnormal indicator is not lit, sound of HF arc-striking can not be heard, wiping welding can strike arc.	<ol style="list-style-type: none"> 1. Primary cable of arc-striking transformer is not connected to power panel firmly, tighten it again. 2. Arc-striking tip is oxidized or too far, give a good polish to it or change it is about 1 mm between arc-striking tip. 3. Switch (sticking/argon-arc welding) is damaged, replace it. 4. Some of HF arc-striking circuit components are damage, find out and replace it.
Abnormal indicator is lit but there is no welding output.	<ol style="list-style-type: none"> 1. Maybe it is overheated protection, please close machine first, then restart the machine after abnormal indicator is out. 2. Maybe it is overheated protection, wait for 2-3 minutes (argon-arc welding does not has overheated protection function) 3. Maybe inverter circuit is in fault, please pull up the supply power plug of main transformer which is on MOS board (VH-07 insert which is near the fan) then open the machine again. 4. If abnormal indicator is still lit, close machine and pull up supply power plug of HF arc-striking power source (which is near the VN-07 insert of fan),then open machine : <ol style="list-style-type: none"> 1) If abnormal indicator is still lit, some of MOSFET of MOS board is damaged, find out and replace it with same model. 2) If abnormal indicator is not lit, rise transformer of HF arc-striking circuit is damaged, replace it. 3) If abnormal indicator is not lit , 4) Maybe transformer of middle board is damage, measure inductance value and Q value of main transformer by inductance bridge ($L=0.9-1.6\text{mH}$ $Q>35$). If value is too low, please replace it. 5) Maybe secondary rectifier tube of transformer is damaged, find out faults and replace rectifier tube with same model. 5. Maybe feedback circuit is broken.

Output current is not stabilizing or out of potentiometer control and sometime is high, sometime is low.	<ol style="list-style-type: none"> 1. 1K potentiometer is damage, replace it. 2. All kinds of connectors are poor contacted, specially inserts etc. please check it.
Sticking spatter is much and caustic electrode of is difficult.	Electrode is connected wrong, exchange grounding cable and handle cable.